Amendments to the Specification:

Please amend the specification as follows:

[0003] Accordingly, an electronic component that needs to be protected from Electromagnetic Interference (EMI) is oftentimes electroplated with a layer of metal on a plastic substrate thereof. For example, a printed circuit board (PCB) substrate can be partially electroplated with a layer of metal materials to protect some sensitive electronic components thereon from EMI.

[0014] The electron gun 3 is arranged on a left sidewall (not labeled) of the vacuum chamber 1 for emitting ~~electron~~ electrons with high energy. The electron gun 3 comprises a cylindrical ~~cartrige~~ cartridge 32, allowing noble gas, for example, argon gas, to pass through. The electron gun 3 is electrically connected to a power source 35, which ~~is applied~~ applies high voltage ~~to the same~~ thereto. A pair of crucibles 15 and 16 is arranged at the bottom of the vacuum chamber 1 for accommodating different metal materials such as nickel 17 and copper 18. A gas inlet 10 is defined through a right sidewall of the vacuum chamber 1 so that a predetermined reactive gas can be introduced therethrough. The PCB substrate 41 is arranged within the vacuum chamber 1, as shown in FIG. 1~~, and~~. The PCB substrate 41 is connected with a ~~substrate accelerating~~ power source 12, which is adapted to apply a voltage ~~to the same~~ thereto. The PCB substrate 41 is made of plastic material, for example, polycarbonate (PC). ~~Besides, a~~ A magnetic field (not shown) is ~~arranged~~ applied within the vacuum chamber 1 for deflecting ~~electron~~ electrons produced by the electron gun 3.

[0016] The substrate 41 is pretreated before ~~ion plating~~ ion plating with a shielding metal. Firstly, the substrate 41 is immersed into an alkaline aqueous solution containing 5% sodium hydroxide (NaOH) by weight at a temperature of 70 to 80 degrees Celsius (°C), and a wave generator is used to produce ultrasonic waves propagating in the alkaline aqueous solution to degrease the substrate 41.

The ultrasonic waves have a frequency of 20 to 40 kilohertz (KHz). After that, the substrate 41 is cleaned several times using hot water having a temperature of 60 to 80 °C. The substrate 41 is then dried.

[0017] Next, the dried substrate 41 is placed into the vacuum chamber 1, and oxygen plasma is used to clean the ~~same~~ substrate 41. The substrate 41 then undergoes a glow discharge cleaning step, wherein the vacuum chamber 1 is pumped to a pressure between 1×10^{-1} and 1×10^{-2} Torr. Oxygen gas is introduced into the vacuum chamber 1 via the gas inlet 10 at a volumetric flow rate between 200 and 2000 standard cubic centimeters per minute (SCCM). A high power from the power source 12 having a magnitude of 1 to 3 ~~kilovoltage (Kv)~~ kilovolts (KV) is applied to the substrate 41. The oxygen gas is ~~glowe-discharged~~ glow-discharged into a great amount of oxygen ions. The accelerated oxygen ions impact and clean the substrate 41 ~~for cleaning~~ under the ~~action~~ application of the high voltage. This cleaning process lasts for 12 to 20 minutes.

[0019] Then, the substrate 41 is coated with a layer of metal material, such as nickel and phosphorus nickel, using an ~~ion-plating~~ ion plating method to increase adhesion between the metal and the surface of the substrate 41. The process for ~~ion-plating~~ ion plating will be described in ~~details~~ detail as follows. Firstly, a ~~magnitude~~ an amount of power in the range from 50 to 200 ~~voltages~~ volts is applied to the substrate 41. Secondly, argon gas is introduced via the ~~cartridge~~ cartridge 32 of the electron gun 3 into the vacuum chamber 1, a volumetric flow rate of the argon gas is maintained in the range of 20~60 SCCM, and a volumetric flow rate of ~~air bleed~~ gas bleeding is maintained at 70~150 SCCM. Thirdly, the ~~eletron~~ electron gun 3 is actuated to produce electron beams with high energy, and the electron beams are glow-discharged into plasma electron beams under the action of the power source 35. The plasma electron beams are deflected under the action of the magnetic field, and ~~impacts~~ impact the nickel 17 contained in the

crucible 15. The nickel 17 is then evaporated and, during the time atoms of the nickel 17 ~~is migrated~~ migrate through the electron beams toward the substrate 41, some of the atoms of the nickel 17 are ~~bumped against~~ struck by the electron beams ~~to be~~ and become ionized. ~~In the meantime~~ At the same time, a great amount of neutral particles with high energy, which particles originated from the nickel 17, is also formed, and is deposited on the surface of the substrate 41 to form a layer of nickel 42 which has a thickness of 5×10^{-9} to 10×10^{-9} meters, as shown in FIG. 3.

[0020] Next, the substrate 41 with [[a]] the nickel layer 42 thereon is ion plated with copper material using the same method. The copper 18 contained in the crucible 16 is evaporated by electron beams produced by the electron gun 3, and is then ionized. At the same time, a great amount of neutral copper ~~neutral~~ particles with high energy is also formed, and is deposited on the surface of the substrate 41 to form a layer of copper 43 which has a thickness of 3×10^{-7} to 6×10^{-7} meters, as shown in FIG. 3.

[0021] Finally, a ~~layer of~~ corrosion-resistant layer 44 is selectively plated on the surface of the copper layer 43 of the substrate 41 to form the EMI-shielding PCB 4, using the same ~~ion-plating~~ ion plating method. The corrosion-resistant layer 44 is made of corrosion-resistant metal materials, for example, stainless steel. The corrosion-resistant layer 44 has a thickness in the range between 2×10^{-8} and 20×10^{-8} meters. During the process of ~~ion-plating~~ ion plating, the temperature of the substrate 41 should be maintained below 80 °C. The EMI-shielding PCB 4 is thus manufactured by the ~~ion-plating~~ ion plating method, as shown in FIG. 3, and has superb characteristics of EMI-shielding and improved corrosion resistance.

[0022] It is ~~understandable~~ understood that the above ~~ion-plating~~ ion plating process for manufacturing the EMI-shielding PCB 4 is also applicable ~~to make~~ for making EMI-shielding components and assemblies in cellular phones, ~~note-books~~

notebooks, and personal digital assistants (PDAs). To obtain better shielding ~~result~~ results, a plurality of different metal layers can be plated onto the substrate using the ~~ion-plating~~ ion plating method. During the process of ~~ion-plating~~ ion plating, the ionized positive ions, which are ~~bumped against~~ struck by the neutral particles with high energy and are under the action of a negative power applied to the substrate, impact the surface of a film layer of the metal to clean atoms which do not firmly adhere to the film layer. As a result, a firm adhesion between the film layer and the substrate is ~~thus formed~~ obtained. ~~Particularly~~ In particular, ~~this~~ the method is very suitable for making some EMI-shielding objects which have irregular shapes, due to the inherent characteristics of the ~~ion-plating~~ ion plating method.